

CLAIMS

1. An airborne-sound absorbing component, in particular for motor vehicles, comprising a resonance absorber (1, 1', 1'', 1''') with a plurality of differently sized hollow chambers (2) spaced apart from each other, and comprising a porous sound-absorbing layer (8) made of an air-permeable material, which layer (8) faces the incoming sound, wherein in each instance the hollow chambers (2) comprise a wall section (5, 5', 5'') which faces the incoming sound, characterised in that the wall sections (5, 5', 5'') which face the incoming sound and are able to oscillate are closed off so as to be airtight, wherein the resonance absorber (1, 1', 1'', 1''') comprises one or several spacers (10, 10', 10'', 10''') such that at least the majority of the wall sections (5, 5', 5'') of the hollow chambers (2), which wall sections (5, 5', 5'') face the incoming sound, do not establish contact with the porous layer (8) and are able to oscillate independently of said porous layer (8).
2. The component according to claim 1, characterised in that the spacers (10, 10') are designed such that they form one piece with the resonance absorber (1).

3. The component according to claim 1, characterised in that the spacers (10') are glued or injection-moulded to the resonance absorber (1).
4. The component according to claim 1, characterised in that the spacers (10'', 10''') are held with positive fit to the resonance absorber (1'', 1''') and/or are clip-lockable.
5. The component according to any one of claims 1 to 4, characterised in that the spacers (10, 10', 10'', 10''') are arranged between hollow chambers (2) and spaced apart from these.
6. The component according to any one of claims 1 to 5, characterised in that the spacers (10, 10', 10'', 10''') have different distances from a mutual reference level which is situated on an outside or inside of the resonance absorber (1, 1', 1'', 1'''').
7. The component according to any one of claims 1 to 6, characterised in that air-filled voids, which are ensured by the spacer or spacers (10, 10', 10'', 10''') between the porous layer (8) and the wall sections (5, 5', 5'') of the hollow chambers (2), which wall sections (5, 5', 5'') face the incoming sound and are able to oscillate, differ in height.
8. The component according to any one of claims 1 to 7, characterised in that the porous layer (8) comprises sections which are spaced apart differently in relation to a common reference level which is

situated on an outside of the resonance absorber (1'').

9. The component according to any one of claims 1 to 8, characterised in that the porous layer (8) is made from a layer of non-woven material and/or a layer of an open-cell cellular material.
10. The component according to any one of claims 1 to 9, characterised in that on the outside, the porous layer (8) is covered by a micro-perforated metal foil.
11. The component according to any one of claims 1 to 10, characterised in that the porous layer (8) is formed from several layers of knitted aluminium goods which are pressed together to form a mat.
12. The component according to any one of claims 1 to 11, characterised in that the hollow chambers (2) are of different height.
13. The component according to any one of claims 1 to 12, characterised in that at least several of the hollow chambers (2) are open on one side and form part of a common air space enclosed in the resonance absorber (1, 1', 1'', 1''').

14. The component according to any one of claims 1 to 13, characterised in that the resonance absorber (1) is a blow-moulded component.
15. The component according to any one of claims 1 to 14, characterised in that the resonance absorber (1', 1'', 1''') is or comprises a formed component made by swaging.
16. The component according to any one of claims 1 to 15, characterised in that the resonance absorber (1', 1'', 1''') is formed of a closed-cell cellular material foil.
17. The component according to any one of claims 1 to 16, characterised in that the resonance absorber (1, 1', 1'', 1''') comprises a structural component (3, 3', 3'', 3''') and a carrier component (4, 4') connected to it, wherein the hollow chambers (2) are formed in the structural component (3, 3', 3'', 3'''), and the structural component (3, 3', 3'', 3''') is formed from a material section whose wall thickness is smaller than that of a material section from which the carrier component (4, 4') is formed.
18. The component according to any one of claims 1 to 13, characterised in that the resonance absorber (1) is or comprises a formed component made by injection moulding.

19. The component according to any one of claims 1 to 18, characterised in that at its margin, the porous layer (8) is connected to the resonance absorber (1, 1', 1'', 1''').
20. The component according to any one of claims 1 to 19, characterised in that a circumferential margin area of the porous layer (8) is connected to the resonance absorber (1, 1'').
21. The component according to any one of claims 1 to 20, characterised in that the porous layer (8) is disconnectably connected to the resonance absorber (1') .
22. The component according to any one of claims 1 to 21, characterised in that the porous layer (8) has a hydrophobic finish and/or an oleophobic finish.
23. The component according to any one of claims 1 to 22, characterised in that the porous layer (8) and the resonance absorber (1, 1', 1'', 1''') are made from plastics belonging to the same materials class.
24. The component according to any one of claims 1 to 23, characterised in that it is designed as an engine compartment encapsulation component and/or a underbody lining for a motor vehicle.